STIC Search Report
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Search Notes

LITIGATION SEARCH
5791412

954808 (08) 5791412 August 11, 1998

UNITED STATES PATENT AND TRADEMARK OFFICE GRANTED PATENT

5791412

August 11, 1998

Pressure-boost device for downhole tools

INVENTOR: Myhre, Morton - Tananger, Norway (NO)

APPL-NO: 954808 (08)

FILED-DATE: October 21, 1997

GRANTED-DATE: August 11, 1998

ASSIGNEE-AT-ISSUE: Baker Hughes Incorporated, Houston, Texas, United States (US), 02

CORE TERMS: piston, downhole, check valve, passageway, housing, ball, sub, fluid, seal, shear ...

ENGLISH-ABST:

A pressure-boosting apparatus particularly amenable for use in downhole applications is disclosed. The pressure-boosting apparatus employs an unbalanced piston which is initially fixated in a run-in position. The piston has a flowpath therethrough in which is mounted a check valve. Initially, pressure is applied to above and below the piston which results in an unbalanced force on the piston due to its configuration. Flow to the tool initiates its actuation at this time. When the unbalanced force reaches a predetermined level, the piston is no longer fixated to the housing and begins to accelerate. Acceleration of the piston closes the check valve due to the sudden decrease in pressure behind the check valve and an increase in pressure in front of the check valve as the fluid volume in front of the piston is compressed. Due to the proportional relationship between pressure and area, a magnification of force originally delivered by the pump is achieved for completion of the setting of a downhole tool such as a packer or bridge plug or the like.

Patent, Trademark & Copyright Periodicals Combined

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Query/Command : PRT SS 1 MAX 1 LEGALALL

1 / 1 PLUSPAT - ©QUESTEL-ORBIT - image

Patent Number :
US5791412 A 19980811 [US5791412]

Title :
(A) Pressure-boost device for downhole tools

Patent Assignee :
(A) BAKER HUGHES INC (US)

Patent Assignee :
Baker Hughes Incorporated, Houston TX [US]

Inventor(s) :
(A) MYHRE MORTON (NO)

Application Nbr :
US95480897 19971021 [1997US-0954808]

Filing Details :
Cont. of US514876 19950814 [1995US-0514876] (Abandoned)

Priority Details :
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US95480897 19971021 [1997US-0954808]

Intl Patent Class :
(A) E21B-023/04

EPO ECLA Class :
E21B-023/04
E21B-033/127D

US Patent Class :
ORIGINAL (O) : 166106000; CROSS-REFERENCE (X) : 166243000

Document Type :
Basic

Citations :
US2624412; US2881841; US3139140; US3344861; US3381766; US4733568; US4892149; US4928769; US5070941; EP0661459 A1; SU604973; SU926238; GB1068355; GB2100347; WO9107566

Publication Stage :
(A) United States patent

Abstract :
A pressure-boosting apparatus particularly amenable for use in downhole applications is disclosed. The pressure-boosting apparatus employs an unbalanced piston which is initially fixated in a run-in position. The piston has a flowpath therethrough in which is mounted a check valve. Initially, pressure is applied to above and below the piston which results in an unbalanced force on the piston due to its configuration. Flow to the tool initiates its actuation at this time. When the unbalanced force reaches a predetermined level, the piston is no longer fixated to the housing and begins to accelerate. Acceleration of the piston closes the check valve due to the sudden decrease in pressure behind the check valve and an increase in pressure in front of the check valve as the fluid volume in front of the piston is compressed. Due to the proportional relationship between pressure and area, a magnification of force originally delivered by the pump is achieved for completion of the setting of a downhole tool such as a packer or bridge plug or the like.

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Patent Number :
US5791412 A 19980811 [US5791412]
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US95480897 19971021 [1997US-0954808]
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20040803 US/RF-A
REISSUE APPLICATION FILED
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Update Code :
2004-34

1 / 1 CRXX - ©CLAIMS/RRX
Patent Number :
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Patent Assignee :
Baker Hughes Inc
Actions :
20040415 REISSUE REQUESTED
ISSUE DATE OF O.G.: 20040803
REISSUE REQUEST NUMBER: 10/825671
EXAMINATION GROUP RESPONSIBLE FOR REISSUEPROCESS: 3625

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LGST          - Time in minutes :    0,13
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